

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A motion based multimedia I/O system for bidirectional communication of information between one or more computer applications in a computer and a user, further comprising:

an I/O device, further comprising:

at least one movable figure having a preselected ornamental appearance, a first universal adapter having a plurality of connections, and a plurality of movable components, the first universal adapter operatively connected to the movable components such that the movable components independently move under control of the first universal adapter,

a base unit having a second universal adapter having a plurality of connections for removably attaching to the first movable adapter in the movable figure; and

the second universal adapter in the base unit having means to control the first universal adapter such that it can independently control movement of one or more preselected movable components in the movable figure; and

the first universal adapter having connections associated with connections in the second universal adapter such that a movable figure can be interchanged with another and attached to the base unit;

the movable figure base unit having means to move initiate and control predetermined motions of a plurality of selected movable components under control of the second universal adapter in the base unit in response to instructions from a computer, the instructions from the computer issued from one or more independent programs through a

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common interface, and the movements of the movable components having specific meaning for a user;

a speaker for outputting audio data from the computer; and

a microphone for inputting voice data to the computer;

whereby the second universal adapter controls the first universal adapter such that motion based multimedia I/O system acts as a shared communications device is made between one or more independent software programs in a computer and an individual ~~that communicates bidirectionally with those programs via audio output, voice input, and motion output.~~

2. (Previously amended) A system, as in claim 1, wherein:

the base unit communicates with the computer via a wireless link.

3. (Canceled) A system, as in claim 2, wherein:

the movable figure further comprises a base unit and a movable figure.

4. (Previously amended) A system, as in claim 1, wherein:

the base unit is remotely located from the computer.

5. (Previously amended) A system, as in claim 4, wherein:

the base unit communicates with the computer over a network.

6. (Previously amended) A system, as in claim 5, further comprising:
- the base unit transmits voice data to a computer over a network.
7. (Currently Amended) A system, as in claim 6, further comprising:
- ~~means to select a~~ enter the user's voice from data into a voice data set, ~~and; and substitute the selected~~
- means to output the user's voice for the input voice data from the voice dataset to the user's I/O device or an I/O device on a remote computer.
8. (Original) A system, as in claim 1, further comprising:
- means to select a voice from a voice data set and substitute the selected voice for the input voice data.
9. (Currently Amended) A system, as in claim 8, further comprising:
- means to store user voice data into the voice data set; ~~[[and]]~~
- means to output the user's voice data from the voice data set to the speaker; and
- means to transfer the user's voice data to a remote computer for output on a remote I/O device.
10. (Canceled) A system, as in claim 3, further comprising:

a base unit, having means to removably attach to the movable figure, and further having means to movably control the motion of the movable figure; and

the movable figure having means to attach to the base unit.

11. (Canceled) The A system, as in claim 1, wherein the movable figure communicates directly with the computer.

12. (Previously amended) A system, as in claim 1, wherein:

the multimedia I/O device can be automatically activated by the computer to provide programmed alarms, predetermined events, and/or timed messages.

13. (Currently amended) A multimedia I/O system for communicating with a computer, further comprising:

a common software interface configured to accept instructions from one or more independent programs in a computer;

a plurality of multimedia I/O devices, each multimedia device further comprising:

a movable figure, further comprising:

motion output means, having a first universal adapter having a plurality of connections, and a plurality of movable components, the first universal adapter operatively connected to the movable components such that the movable components independently move under control of the first universal adapter means to communicate via motion ;

a base unit, further comprising:

a second universal adapter having a plurality of connections for removably attaching to the first movable adapter in the movable figure;

the second universal adapter in the base unit having means to control the first universal adapter such that it can independently control movement of one or more preselected movable components in the movable figure;

the first universal adapter having connections associated with connections in the second universal adapter such that the movable figures can be interchanged with one another and attached to the base unit;

a speaker, electrically attached to the ~~movable object~~ multimedia I/O device, for outputting audio data; and

a microphone, electrically attached to the ~~movable object~~ multimedia I/O device, for inputting voice data to a computer;

whereby the multimedia I/O devices act as intermediary communications devices that allow communication between multiple programs and a user via audio output, voice input, and motion.

14. (Original) A system, as in claim 13, wherein:

each of the multimedia I/O devices communicates directly with the computer.

15. (Canceled) A system, as in claim 13, further comprising:

at least one base unit, the base unit having means to attach to a multimedia I/O device;

the base unit communicates further comprises a wireless communications link.

16. (Original) A system, as in claim 14, wherein:

at least one of the plurality of multimedia I/O devices is located at a remote location from computer.

17. (Original) A system, as in claim 13, wherein:

the multimedia I/O device outputs notification of system events, including e-mail, incoming user messages, system status messages, and scheduled messages.

18. (Original) A system, as in claim 13, wherein:

the multimedia I/O device is used as a movable game figure in conjunction with software games.

- 19 (Original) A system, as in claim 13, wherein:

the multimedia I/O device is used to represent individuals in a chat room.

20. (Original) A system, as in claim 18, wherein:

movable multimedia I/O devices are used to represent individual players in multiplayer games.

21. (Currently amended) A multimedia I/O system for communicating information between a computer and a user, further comprising:

a computer having a programmable processor and storage means for storing computer programs;

at least one computer program further having means to execute programming instructions to a base unit for controlling a movable figure;

the base unit having ~~[[a]]~~ at least one removably attached movable figure, the base unit further having ~~means to control a first universal adapter to attach to a corresponding second universal adapter in the movable figure such that the first universal adapter controls~~ movement of individual multiple movable components of the movable figure ~~having motion means; and~~

a common interface between the programmable processor and the base unit having a predetermined interface format which allows multiple computer programs to independently access the base unit and control movement of the ~~movable figure; and first universal adapter;~~

whereby the multimedia I/O system acts as an intermediary communications device between one or more independent software programs in a computer and an individual that communicates information via movable figure motion.

22. (Previously amended) A system, as in claim 21, further comprising:

an interface for communicating between computer programs and the base unit, for receiving output audio data for output by the speaker and for receiving instructions from the computer programs for controlling movement of the movable figure.

23. (Previously amended) A system, as in claim 22, further comprising:
- a microphone for inputting audio data;
- means to transfer the input audio data to a computer program via the interface; and
- the computer program having means to respond to the input audio data by outputting audio data and instructions to the base unit for controlling movement of the movable figure;
- whereby the user can interact with a computer program by inputting audio data to the computer program, and receiving audio and motion output from the computer program.
24. (Previously amended) A system, as in claim 23, further comprising:
- communication means in the computer to communicate with a network of computers, the communication means further having means to receive software instructions from remote computers for controlling the base unit motion and for activating the movable figure and for inputting and outputting data by the movable figure via the base unit.
25. (Previously amended) A system, as in claim 23, further comprising:
- means to automatically output audio data and/or activate the base unit to move the movable figure when a preselected event is detected.
26. (Original) A system, as in claim 25, wherein:
- the preselected event is a system error, a timed event, or an alarm.

27. (Previously amended) A system, as in claim 23, further comprising:

voice data collection and storage means to store a variety of voice data types from a variety of sources;

means to select voice data stored in the voice data collection and storage means by entering voice commands into the microphone, and outputting the selected voice data via the speaker.

28. (Canceled) A system, as in claim 10, wherein:

the speaker and the microphone are integrated into the base unit.

29. (Currently Amended) A system, as in claim 21, wherein:

the movable figure includes attachment means, having a plurality of connections, to attach to the a universal adapter in the base unit;

the base unit includes a universal adapter, which has a plurality of attachment connection, to attach attaches to attachment means on the movable figure; and

the attachment means in the movable figure is removably attached to the universal adapter on the base unit such that the base unit can be attached to different movable figures;

whereby the base unit and the movable figures have mutually corresponding and detachable universal adapters which allow different movable figures to be interchangeably used in conjunction with a single base unit.

30. (Original) A system, as in claim 21, further comprising:

a manual input device, mainly a game controller, a joystick, a mouse, or a keyboard for inputting data to the computer for controlling the multimedia I/O device.

31. (Original) A system, as in claim 18, further comprising:

monitoring means to monitor user activity to determine if a specific instruction has been entered, if a specific event has occurred, or if a predetermined time period has been exceeded; and

means to automatically activate a predetermined response under control of the monitoring means if the specific instruction was entered, if the specific event occurred, or if the predetermined time period was exceeded.

32. (Currently Amended) A system, as in claim 23, further comprising:

means to input voice data to the microphone associated with the multimedia I/O device;

means to output the voice data to a speaker associated with a second multimedia I/O device on a remote computer.

33. (Previously amended) A system, as in claim 1, further comprising:

a base unit having means to receive electronic data and convert it to holographic data, a holographic data input to holographic projection means for projecting a holographic image; and

the movable figure is the holographic image.

34. (Currently amended) A method of using motion to communicate information between computers and individuals, including the steps of:

using a plurality of independent software applications to control an I/O device, which has a base unit, and one or more movable figures that are interchangeably attachable to a universal adapter in the base unit, the universal adapter having means to initiate movement of and independently control a plurality of movable components, the software applications controlling the I/O device via a common interface having a predetermined interface format which allows the software applications to independently access the movable figure, via the base unit, which controls the movable components independent from one another, for the purpose of conveying outputting information via specific controlled movements of the I/O device, the movable I/O device is positioned in view of an individual such that the movements are visible to the individual is provided with information based on motion; and

associating specific events with specific movements such that when the individual observes a particular movement, information regarding a specific event is provided by the computer to the individual;

whereby an individual can be notified of specific events by a plurality of software applications in the computer based on particular movements of the I/O device which are controlled by the computer.

35. (Original) A method, as in claim 34, including the additional steps of:

using an I/O device which is structured to resemble a known character; and

moving portions of the I/O device in a manner similar to the normal movement of the known character;

whereby the behavior of the known character can be mimicked by the I/O device.

36. (Previously amended) A method, as in claim 35, including the additional steps of:

structuring the I/O device to resemble known characters including humans, animals, cartoon characters, robots, or machines; and

moving the I/O device such that movements of the I/O device resemble movements related to specific behavioral states, including humor, sadness, excitement, relaxation, anger, or concern of the particular known character mimicked by the I/O device;

whereby the behavior of known characters can be mimicked to convey information.

37. (Previously amended) A method, as in claim 36, including the additional step of:

selecting the motion used by the I/O device from a plurality of motions based on preselected factors;

whereby the computer can alter the motions used for a particular specific event or expected input based on preselected factors.

38. (Original) A method, as in claim 37, including the additional step of:

providing audio output from the I/O device, under control of the computer, and coordinating motion data with audio data in a single communication;

whereby the I/O device more closely resembles the known character represented by the I/O device.

39. (Previously amended) A method, as in claim 38, including the additional steps of:

using a microphone to input audio data from the individual to the computer; and

using voice recognition software in the computer to analyze the audio data input by the individual and respond to instructions or data contained in the audio data;

whereby the individual can issue commands, or enter data, to the computer via the microphone.

40. (Previously amended) A method, as in claim 39, including the additional steps of:

remotely locating the movable I/O device in a remote location from the computer, to allow remote communication between a computer and an individual; and

using a wireless connection between the I/O device and the computer such that the user can move the I/O device from one location to another and remain in communication with the computer;

whereby the individual can carry the movable I/O device from one location to another and remain in communication with the computer.

41. (Original) A method, as in claim 40, including the additional step of:

using a plurality of movable I/O devices, each associated with an individual, located in remote locations from the computer and portable such that each individual can carry the individual's respective I/O device from one location to another to allow remote communication between multiple individuals via the computer.

42. (Original) A method, as in claim 41, including the additional steps of:

storing, in an audio data library, a plurality of selectable unique audio data, including voice data; and

selecting and outputting portions of the unique audio data;

whereby the unique audio data is output by the I/O device.

43. (Original) A method, as in claim 42, including the additional step of:

storing voice data from the individual in the audio data library, and selecting and outputting portions of the voice data to the I/O device;

whereby the individual's voice is output from the I/O device.

44. (Previously amended) A method, as in claim 39, including the additional step of:

using a plurality of movable I/O devices, located in remote locations from the computer, to allow remote communication between a computer and a plurality of individuals.

45. (Original) A method, as in claim 39, including the additional steps of:

playing a game on a computer; and

using the I/O device to represent a character from the game;

whereby the I/O device can communicate directly with the individual for the character in the game.

46. (Previously amended) A method, as in claim 39, including the additional steps of:

attaching a computer to a network of computers having at least one remote computer;

attaching multiple I/O devices to the computer, and having at least one of the I/O devices represent an individual on the remote computer; and

controlling, via the remote computer, the motion and audio output of the I/O device that represents the individual using the remote computer;

whereby multiple remote users can have individual I/O devices on the computer which allows them to produce motion data on the local computer.

47. (Previously amended) A method, as in claim 39, including the additional steps of:

attaching a computer to a network of computers having at least one remote computer;

attaching multiple I/O devices to the computer, and having at least one of the I/O devices represent a remote computer; and

outputting motion data from the remote computer to the I/O device via the network that represents system events on the remote computer;

whereby the remote computer can control motion on the I/O device.

48. (Original) A method, as in claim 35, including the additional steps of:

playing a game on a computer; and

using the I/O device to represent a character from the game;

whereby the i/O device can communicate directly with the individual for the character in the game.

49. (Currently amended) A method of communicating between computers and individuals, including the steps of:

using a base unit and a plurality of interchangeable moving figures to form a portable I/O device as an interface between a computer and an individual such that the computer can output information to the individual, and the individual can input data to the computer; and

using communication means in the base unit to communicate with the computer, and using a universal adapter that has a plurality of connections in the base unit to control independent movement of multiple movable components in the movable figure attached the base unit;

providing a wireless link as the communication means between the computer and the portable I/O device base unit such that the portable I/O device can be remotely located from the computer;

whereby an individual can control and interact with the computer using a portable I/O device, and can move the portable I/O device from one location to another while controlling and interacting with the remotely located computer.

50. (Original) A method, as in claim 49, including the additional steps of:

using movable components in the portable I/O device, which are controlled by the computer, to convey information output from the computer to an individual via specific controlled movements of the portable I/O device that are visible to the individual; and

associating specific events with specific movements such that when the individual observes a particular movement, information regarding a specific event is provided by the computer to the individual;

whereby the individual can be notified of specific events by the computer based on particular movements of the portable I/O device which are controlled by the computer.

51. (Currently Amended) A method, as in claim 49, including the additional steps of:

using an I/O device which has a figure shaped to represent a preselected character or object;

a base unit, removably attached to the figure, and having an integrated computer processor, the integrated computer processor in the base unit further having software to control the movable components in the portable I/O device, the instructions from the computer issued from one or more independent programs through a common interface;

a microphone to input voice data to the integrated computer processor, the microphone electrically attached to either the figure or the base unit;

a voice dataset having a plurality of selectable voices;

means to input the user's voice into the voice dataset as a selectable voice;

a speaker to output audio data, the speaker electrically attached to either the figure or the base unit;

the integrated computer processor further having software for synthesizing output audio data from digital data received from the computer or for outputting audio data received from the computer;

the integrated computer processor further having voice recognition software for converting input voice data to digital data for transmission via the wireless link to the computer;

whereby an individual can communicate with one or more independent software programs in a computer using motion output data, output audio data and input voice data, and the processing overhead related to the conversion of input voice data to digital data and synthesis of output audio data is absorbed by the integrated computer processor and not by the computer.

52. (Original) A system, as in claim 1, wherein the common interface is an API software interface.
53. (Original) A system, as in claim 21, wherein the common interface is an API software interface.
54. (Original) A system, as in claim 49, wherein the common interface is an API software interface.
55. (Currently Amended) A system, as in claim 1, wherein further comprising:
software in a computer for controlling the base unit and the movable figure;

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the base unit further comprises:

~~software for controlling the base unit and the movable figure;~~

~~a processor; circuitry in the base unit having means to ~~execute~~ control a universal adapter in the base unit which attaches to the movable figure and in turn independently controls the motion of a plurality of movable components in the movable figure in response to commands from the software in the base unit, or to receive and execute software from the computer, or to execute software in the base unit and software received from the computer; and~~

whereby software ~~in the base unit~~ can control the movable figure independent of direct control of the computer by issuing commands to the circuitry.

56. (Currently Amended) A system, as in claim 21, wherein further comprising:

software in a computer for controlling the base unit and the movable figure;

the base unit further comprises:

~~software for controlling the base unit and the movable figure;~~

~~a processor circuitry, having means to ~~execute~~ control motion of the movable figure in response to commands from the software in the base unit, or to receive and execute software from the computer, or to execute software in the base unit and software received from the computer; and~~

whereby software ~~in the base unit~~ can control the movable figure independent of direct control of the computer by issuing commands to the circuitry.

57. (Original) A method, as in claim 35, including the additional steps of:

using the movable figure, when playing a game on a computer, to represent the character from the game, the movable figure directly communicating with a user by motion and/or audio output.

58. (Original) A system, as in claim 21, further comprising a speaker for outputting audio data under control of the computer program.

59. (Currently Amended) A system, as in claim 1, wherein:

the movable figure includes attachment means to attach to the universal adapter in the base unit, the attachment means further having means to control individual components of the movable figure;

the base unit includes a universal adapter, which attaches to the attachment means on the movable figure, and controls the movement of individual components of the movable figure via the attachment means; and

the attachment means in the movable figure is removably attached to the universal adapter on the base unit such that the base unit can be attached to different movable figures;

whereby the base unit and the movable figures have mutually corresponding and detachable universal adapters which allow different movable figures to be interchangeably used in conjunction with a single base unit, and which multiple components inside of a movable figure are independently controlled and moved.